

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A system comprising the following:
 - a multiplexer that can receive a plurality of analog signals;
 - an analog scaler configured to scale an analog signal that is received from the multiplexer;
 - an analog-to-digital converter configured to convert the scaled analog signal to a digital signal;
 - one or more processors; and
 - a memory module having stored therein microcode that is accessible and executable by the one or more processors;wherein the microcode, when executed by the one or more processors, causes the system to perform the following:
 - an act of determining which analog signal from the plurality of analog signals is being provided to the analog scaler by the multiplexer;
 - an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the analog signal using the adjusted scaling value, and to allow the analog-to-digital converter to convert the scaled signal into [[a]] the digital signal representing a digital value;
 - an act of reading the digital value; and
 - an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

2. (Original) A system in accordance with Claim 1, wherein when it is determined that scaling value should be adjusted, the microcode is further configured to perform the following:

an act of repeating the acts of adjusting and reading with the adjusted scaling value.

3. (Currently Amended) A system in accordance with Claim 1, further comprising the following:

a plurality of analog signal sources that generate ~~[[a]]~~ the plurality of analog signals; and

~~a multiplexer that receives the plurality of analog signals, and provides the resulting multiplexed signal and least indirectly to the analog scaler,~~

wherein the microcode, when executed by the one or more processors, causes the system to perform the following:

~~an act of determining which analog signal is being provided to the analog scaler,~~

~~and~~

an act of calculating the scaling value based upon which analog signal is being provided to the analog scaler.

4. (Original) A system in accordance with Claim 3, wherein the microcode, when executed by the one or more processors, causes the system to perform the following:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

5. (Original) A system in accordance with Claim 4, further comprising the following:

a plurality of sensors generating at least some of the plurality of analog signals.

6. (Original) A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a temperature sensor.

7. (Original) A system in accordance with Claim 6, wherein the plurality of sensors comprises the following:

a voltage supply level sensor.

8. (Original) A system in accordance with Claim 7, wherein the plurality of sensors comprises the following:

a receive strength sensor.

9. (Original) A system in accordance with Claim 8, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

10. (Original) A system in accordance with Claim 7, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

11. (Original) A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a voltage supply level sensor.

12. (Original) A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a receive strength sensor.

13. (Original) A system in accordance with Claim 5, wherein the plurality of sensors comprises the following:

a transmit strength sensor.

14. (Original) A system in accordance with Claim 1, wherein the system is implemented in a laser transmitter/receiver.

15. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 1G laser transceiver.

16. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 2G laser transceiver.

17. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 4G laser transceiver.

18. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a 10G laser transceiver.

19. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a laser transceiver suitable for fiber channels greater than 10G.

20. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is an XFP laser transceiver.

21. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is an SFP laser transceiver.

22. (Original) A system in accordance with Claim 14, wherein the laser transmitter/receiver is a SFF laser transceiver.

23. (Currently Amended) In a system that includes an analog scaler configured to scale an analog signal, an analog-to-digital converter configured to convert the scaled analog signal to a digital signal, one or more processors, and a memory module having stored therein microcode that is accessible and executable by the one or more processors, a method for dynamically adjusting the analog-to-digital conversion, the method performed by the one or more processors in response to execution of the microcode, the method comprising the following:

an act of receiving a plurality of analog signals;

an act of determining which analog signal from the plurality of analog signals to provide to an analog scaler;

an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the analog signal using the scaling value, and to allow the analog-to-digital converter to convert the scaled analog signal into a digital signal representing a digital value;

an act of reading the digital value; and

an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

24. (Original) A method in accordance with Claim 23, wherein when it is determined that scaling value should be adjusted, the microcode is further configured to perform the following:

an act of repeating the acts of adjusting and reading with the adjusted scaling value.

25. (Currently Amended) The method in accordance with Claim 23, wherein the system further includes a plurality of analog signal sources that generates ~~[[a]]~~ the plurality of analog signals, and a multiplexer that receives the plurality of analog signals, and provides the resulting multiplexed signal and least indirectly to the amplifier, the method further comprising the following:

~~an act of determining which analog signal is being provided to the analog scaler; and~~

an act of calculating the scaling value based upon which analog signal is being provided to the analog scaler.

26. (Original) The method in accordance with Claim 25. further comprising the following:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

27. (Original) A method in accordance with Claim 25, wherein the plurality of analog signal sources comprises a temperature sensor.

28. (Original) A method in accordance with Claim 25, wherein the plurality of analog signal sources comprises a voltage supply level sensor.

29. (Original) A method in accordance with Claim 25, wherein the plurality of analog signal sources comprises a receive strength sensor.

30. (Original) A method in accordance with Claim 25, wherein the plurality of analog signal sources comprises a transmit strength sensor.

31. (Currently amended) One or more computer-readable media for using in a system that includes an analog scaler configured to scale an analog signal, an analog-to-digital converter configured to convert the scaled analog signal to a digital signal, and one or more processors, the one or more computer-readable media having thereon microcode that when executed by the one or more processors, is configured to cause the system to perform the following:

an act of receiving a plurality of analog signals from a plurality of analog sources;

an act of determining which analog signal from the plurality of analog signals is provided to an analog scaler;

an act of adjusting a scaling value of the analog scaler to allow the analog scaler to scale the signal using the scaling value, and to allow the analog-to-digital converter to convert the scaled analog signal into a digital signal representing a digital value;

an act of reading the digital value; and

an act of determining from the digital value whether the scaling value should be adjusted for the analog signal so that the scaled analog signal is within the input range, or further within the input range, of the analog-to-digital converter.

32. (Original) The one or more computer-readable media in accordance with Claim 31, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

when it is determined that scaling value should be adjusted, an act of repeating the acts of adjusting and reading with the adjusted scaling value.

33. (Currently Amended) The one or more computer-readable media in accordance with Claim 31, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

~~an act of determining which of a plurality of analog signals from a plurality of analog signal sources is being provided to the analog scaler through a multiplexer; and~~

an act of calculating the scaling value based upon which analog signal is being provided to the amplifier.

34. (Original) The one or more computer-readable media in accordance with Claim 33, wherein the microcode further causes the system to perform the following when executed by the one or more processors:

an act of instructing the multiplexer to select one of the plurality of analog signals to be provided to the analog scaler.

35. (Original) The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a temperature sensor.

36. (Original) The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a voltage supply level sensor.

37. (Original) The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a receive strength sensor.

38. (Original) The one or more computer-readable media in accordance with Claim 33, wherein the plurality of analog signal sources comprises a transmit strength sensor.

39. (New) A transceiver comprising:
- a receiver that receives a first optical signal over an optical fiber and generates a first electrical signal that represents the first optical signal;
 - a post-amplifier that amplifies the first electrical signal;
 - a laser driver that receives a second electrical signal, wherein the laser driver drives a transmitter that produces a second optical signal that represents the second electrical signal; and
 - a control chip that connects with the first electrical signal and with the second electrical signal and that determines which of the first electrical signal and the second electrical signal to scale, the control chip comprising:
 - an analog portion that scales the first electrical signal or the second electrical signal based on which of the first electrical signal and the second electrical signal is selected, wherein the analog portion converts the scaled first electrical signal to a first digital value or the scaled second electrical signal to a second digital value; and
 - a digital portion, wherein the digital portion uses microcode along with either the first digital value or the second digital value to adjust a scaling value that is used by the analog portion to scale either the first voltage or the second voltage to within an input range of the analog portion.